

WHAT IS CLAIMED IS:

1. An image-reproducing apparatus for reproducing an image from a hologram or a holographic stereogram, which records either 2-dimensional image data or 3-dimensional image data,

wherein an optical member having parallel prisms on a front surface is bonded at the rear surface to the hologram or holographic stereogram, and illumination light is applied to the front surface of the optical member, thereby to reproduce a 2- or 3-dimensional image from the hologram or holographic stereogram.

2. The image-reproducing apparatus according to claim 1, wherein the optical member has a plurality of incidence surfaces on the front surface, and the illumination light is applied at right angles to the incidence surfaces of the optical member.

3. The image-reproducing apparatus according to claim 2, wherein the illumination light is applied to an interface between the optical member and the hologram or holographic stereogram, at a fixed incidence angle falling within a specific range, thereby to suppress surface reflection of the illumination light at the interface.

4. The image-reproducing apparatus according to claim 3, wherein the fixed incidence angle ranges from 60° to 85° , with respect to a normal to the interface.

5. The image-reproducing apparatus according to claim 4, wherein the parallel prisms have surfaces inclined at right angles to the incidence surfaces and

inclined to the interface at the same angle equal to the fixed incidence angle.

6. The image-reproducing apparatus according to claim 3, wherein the hologram or holographic stereogram and the optical member bonded thereto are bent, forming a hollow cylinder, the inner surface of which is defined by the front surface of the optical member, and the illumination light is applied to an inner surface of the hollow cylinder, thereby reproducing a 2- or 3-dimensional image from the hologram or holographic stereogram.

7. The image-reproducing apparatus according to claim 2, wherein the illumination light is applied to an interface between the optical member and the hologram or holographic stereogram, at different incidence angles falling within a specific range, thereby to suppress surface reflection of the illumination light at the interface.

8. The image-reproducing apparatus according to claim 7, wherein the different incidence angles ranges from 60° to 85° , with respect to a normal to the interface.

9. The image-reproducing apparatus according to claim 8, wherein the parallel prisms have surfaces inclined at right angles to the incidence surfaces and inclined to the interface at different angles.

10. The image-reproducing apparatus according to claim 7, wherein the hologram or holographic stereogram and the optical member bonded thereto are bent, forming a hollow cylinder, the inner surface of which is defined by the front surface

of the optical member, and the illumination light is applied to an inner surface of the hollow cylinder, thereby reproducing a 2- or 3-dimensional image from the hologram or holographic stereogram.

11. The image-reproducing apparatus according to claim 1, wherein the optical member is bonded to the hologram or holographic stereogram, to be rigid.

12. The image-reproducing apparatus according to claim 2, wherein the incidence surfaces are provided on the parallel prisms and arranged at regular intervals.

13. The image-reproducing apparatus according to claim 12, wherein the regular intervals are at most 0.5 mm.

14. The image-reproducing apparatus according to claim 1, wherein the optical member has a thickness determined, optically irrespective of a size of the hologram or holographic stereogram, when the optical member bonded to the hologram or holographic stereogram is sufficiently rigid.

15. An image-reproducing apparatus for reproducing an image from a hologram or a holographic stereogram, which records either 2-dimensional image data or 3-dimensional image data,

wherein an optical member having parallel prisms on a part of a front surface is bonded at the rear surface to the hologram or holographic stereogram, and illumination light is applied to the parallel prisms, in order to reproduce a 2- or 3-dimensional image from the hologram or holographic stereogram.

16. The image-reproducing apparatus according to claim 15, wherein the optical member has a plurality of incidence surfaces on the parallel prisms, and the illumination light is applied at right angles to the incidence surfaces of the optical member.

17. The image-reproducing apparatus according to claim 16, wherein the illumination light is applied to the parallel prisms at a fixed incidence angle.

18. The image-reproducing apparatus according to claim 17, wherein the optical member has a light-guiding section for guiding the illumination light from the parallel prisms, while reflecting the illumination light.

~~19. The image-reproducing apparatus according to claim 18, wherein the~~
light-guiding section is tinted black at an outer surface.

20. The image-reproducing apparatus according to claim 17, wherein the optical member has a part that is exposed at the inner surface, said part lying behind the parallel prisms.

21. The image-reproducing apparatus according to claim 20, wherein the light-guiding section is tinted black at an outer surface.

22. The image-reproducing apparatus according to claim 17, wherein the hologram or holographic stereogram and the optical member bonded thereto are bent, forming a hollow cylinder, the inner surface of which is defined by the front surface of the optical member, and the illumination light is applied to an inner surface of the hollow cylinder, thereby reproducing a 2- or 3-dimensional image from the hologram

or holographic stereogram.

23. The image-reproducing apparatus according to claim 16, wherein the illumination light is applied to the parallel prisms at different incidence angles, respectively.

24. The image-reproducing apparatus according to claim 23, wherein the optical member has a light-guiding section for guiding the illumination light from the parallel prisms, while reflecting the illumination light.

25. The image-reproducing apparatus according to claim 24, wherein the light-guiding section is tinted black at an outer surface.

26. The image-reproducing apparatus according to claim 23, wherein the optical member has a part that is exposed at the inner surface, said part lying behind the parallel prisms.

27. The image-reproducing apparatus according to claim 26, wherein the light-guiding section is tinted black at an outer surface.

28. The image-reproducing apparatus according to claim 23, wherein the hologram or holographic stereogram and the optical member bonded thereto are bent, forming a hollow cylinder, the inner surface of which is defined by the front surface of the optical member, and the illumination light is applied to an inner surface of the hollow cylinder, thereby reproducing a 2- or 3-dimensional image from the hologram or holographic stereogram.

29. The image-reproducing apparatus according to claim 15, wherein the

optical member is bonded to the hologram or holographic stereogram, to be rigid.

30. The image-reproducing apparatus according to claim 16, wherein the incidence surfaces are provided on the parallel prisms and arranged at regular intervals.

31. The image-reproducing apparatus according to claim 30, wherein the regular intervals are at most 0.5 mm.

32. The image-reproducing apparatus according to claim 15, wherein the optical member has a thickness determined, optically irrespective of a size of the hologram or holographic stereogram, when the optical member bonded to the hologram or holographic stereogram is sufficiently rigid.

33. An image-reproducing method of reproducing an image from a hologram or a holographic stereogram, which records either 2-dimensional image data or 3-dimensional image data,

wherein an optical member having parallel prisms on a front surface is bonded at the rear surface to the hologram or holographic stereogram, and illumination light is applied to the front surface of the optical member, thereby reproducing a 2- or 3-dimensional image from the hologram or holographic stereogram.

34. The image-reproducing method according to claim 33, wherein the optical member has a plurality of incidence surfaces on the front surface, and the illumination light is applied at right angles to the incidence surfaces of the optical member.

35. The image-reproducing method according to claim 34, wherein the illumination light is applied to an interface between the optical member and the hologram or holographic stereogram, at a fixed incidence angle falling within a specific range, thereby to suppress surface reflection of the illumination light at the interface.

36. The image-reproducing method according to claim 35, wherein the fixed incidence angle ranges from 60° to 85° , with respect to a normal to the interface.

37. The image-reproducing method according to claim 36, wherein the parallel prisms have surfaces inclined at right angles to the incidence surfaces and inclined to the interface at the same angle equal to the fixed incidence angle.

38. The image-reproducing method according to claim 35, wherein the hologram or holographic stereogram and the optical member bonded thereto are bent, forming a hollow cylinder, the inner surface of which is defined by the front surface of the optical member, and the illumination light is applied to an inner surface of the hollow cylinder, thereby reproducing a 2- or 3-dimensional image from the hologram or holographic stereogram.

39. The image-reproducing method according to claim 34, wherein the illumination light is applied to an interface between the optical member and the hologram or holographic stereogram, at different incidence angles falling within a specific range, thereby to suppress surface reflection of the illumination light at the interface.

40. The image-reproducing method according to claim 39, wherein the different incidence angles ranges from 60° to 85° , with respect to a normal to the interface.

41. The image-reproducing method according to claim 40, wherein the parallel prisms have surfaces inclined at right angles to the incidence surfaces and inclined to the interface at different angles.

42. The image-reproducing method according to claim 39, wherein the hologram or holographic stereogram and the optical member bonded thereto are bent, forming a hollow cylinder, the inner surface of which is defined by the front surface of the optical member, and the illumination light is applied to an inner surface of the hollow cylinder, thereby reproducing a 2- or 3-dimensional image from the hologram or holographic stereogram.

43. The image-reproducing method according to claim 34, wherein the incidence surfaces are provided on the parallel prisms and arranged at regular intervals.

44. The image-reproducing method according to claim 43, wherein the regular intervals are at most 0.5 mm.

45. An image-reproducing method of for reproducing an image from a hologram or a holographic stereogram, which records either 2-dimensional image data or 3-dimensional image data,

wherein an optical member having parallel prisms on a part of a front surface

is bonded at the rear surface to the hologram or holographic stereogram, and illumination light is applied to the parallel prisms, thereby reproducing a 2- or 3-dimensional image from the hologram or holographic stereogram.

46. The image-reproducing method according to claim 45, wherein the optical member has a plurality of incidence surfaces on the parallel prisms, and the illumination light is applied at right angles to the incidence surfaces of the optical member.

47. The image-reproducing method according to claim 46, wherein the illumination light is applied to the parallel prisms at a fixed incidence angle.

48. The image-reproducing method according to claim 47, wherein the optical member has a light-guiding section for guiding the illumination light from the parallel prisms, while reflecting the illumination light.

49. The image-reproducing method according to claim 48, wherein the light-guiding section is tinted black at an outer surface.

50. The image-reproducing method according to claim 47, wherein the optical member has a part that is exposed at the inner surface, said part lying behind the parallel prisms.

51. The image-reproducing method according to claim 50, wherein the light-guiding section is tinted black at an outer surface.

52. The image-reproducing method according to claim 47, wherein the hologram or holographic stereogram and the optical member bonded thereto are bent,

forming a hollow cylinder, the inner surface of which is defined by the front surface of the optical member, and the illumination light is applied to an inner surface of the hollow cylinder, thereby reproducing a 2- or 3-dimensional image from the hologram or holographic stereogram.

53. The image-reproducing method according to claim 46, wherein the illumination light is applied to the parallel prisms at different incidence angles, respectively.

54. The image-reproducing method according to claim 53, wherein the optical member has a light-guiding section for guiding the illumination light from the parallel prisms, while reflecting the illumination light.

55. The image-reproducing method according to claim 54, wherein the light-guiding section is tinted black at an outer surface.

56. The image-reproducing method according to claim 53, wherein the optical member has a part that is exposed at the inner surface, said part lying behind the parallel prisms.

57. The image-reproducing method according to claim 56, wherein the light-guiding section is tinted black at an outer surface.

58. The image-reproducing method according to claim 53, wherein the hologram or holographic stereogram and the optical member bonded thereto are bent, forming a hollow cylinder, the inner surface of which is defined by the front surface of the optical member, and the illumination light is applied to an inner surface of the

hollow cylinder, thereby reproducing a 2- or 3-dimensional image from the hologram or holographic stereogram.

59. The image-reproducing method according to claim 45, wherein the incidence surfaces are provided on the parallel prisms and arranged at regular intervals.

60. The image-reproducing method according to claim 59, wherein the regular intervals are at most 0.5 mm.

61. The image-reproducing method according to claim 45, wherein the optical member has a thickness determined, optically irrespective of a size of the hologram or holographic stereogram, when the optical member bonded to the hologram or holographic stereogram is sufficiently rigid.